

Rate Constants for the Reaction of OH with Halocarbons

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A relative rate technique has been used to measure rate constants for the reactions of the **hydroxyl** radical with several **halocarbons**, including ethyl chloride and ethyl bromide. The primary reference standard was ethane, using the JPL 97-4 recommendation. Additional ratio measurements with **CH₂Cl₂** and **CH₃CH₂Cl** were made. For **CH₃CH₂Cl** the result for k is **4.6E-12 exp(-846/T)**, and for **CH₃CH₂Br** $k = 5.1\text{E-}12 \text{ exp(-860/T)}$. (Units are **cm³/molec-s**). These results are in good agreement with recently reported absolute rate constant measurements. Comparisons of these rates with other Cl and Br compounds will be made.